



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/394,023	09/10/1999	BELISARIO DAVILA ALANIS	041-468-L	3630

7590 08/15/2002

ALFRED W KOZAK
UNISYS CORPORATION
10850 VIA FRONTERA MS 1000
SAN DIEGO, CA 92127

[REDACTED] EXAMINER

SNYDER, DAVID A

[REDACTED] ART UNIT [REDACTED] PAPER NUMBER

2122

DATE MAILED: 08/15/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/394,023	ALANIS, BELISARIO DAVILA	
	Examiner	Art Unit	
	David A Snyder	2122	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 10 September 1999.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-15 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 10 September 1999 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. Applicant is required to submit a proposed drawing correction in reply to this Office action. However, formal correction of the noted defect may be deferred until after the examiner has considered the proposed drawing correction. Failure to timely submit the proposed drawing correction will result in the abandonment of the application.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: 37d and 37t of Figure 1A. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: step (vl) of page 30, line 30. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2122

5. Claims 1 - 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maebayashi et al., in view of Machado et al., and further in view of Ghia et al.

As per claim 1, Maebayashi et al. teaches/discloses a “source means” (Maebayashi et al., “modification data”, col. 4, lines 47-54). Maebayashi et al. does not does not expressly disclose that the source means for a SCSI peripheral has a SCSI disk drive firmware and SCSI servo firmware. However, Machado et al. discloses the use of disk drive firmware and servo firmware (Machado et al., “hardware dependent section 502” and “servo section 504”, col. 30, lines 10-29 and fig. 14). Thus, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to enclose the SCSI disk drive firmware and SCSI servo firmware of Machado et al. in the source means of Maebayashi et al. for a SCSI controller or peripheral. One of ordinary skill in the art would have been motivated to update a SCSI targeted peripheral;

Maebayashi et al. teaches/discloses the use of a “central processing unit” (Maebayashi et al., “processor”, col. 16, lines 14-23) and the use of “temporary storage” for storing firmware (Maebayashi et al., fig. 1, item 11). Maebayashi et al. does not does not expressly disclose that the “central processing unit should have selection means for choosing single or dual two-dimensional array”. However, Ghia et al. discloses the selection means for choosing a single or dual two-dimensional array (Ghia et al., col. 1, lines 32-48). Thus, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to allow selection of one or two arrays in order to expand the memory space available for the storage of the source means or the separate

Art Unit: 2122

storage of two different source means. One of ordinary skill in the art would have been motivated to do this for the above reasons.

As per claim 2, as applied to claim 1 above, Maebayashi et al. also teaches/discloses, “a means for temporarily storing different versions of said firmware” (Maebayashi et al., col. 17, lines 23-27 and 47-50).

As per claim 3, as applied to claim 1 above, Maebayashi et al. also teaches/discloses, “a means for checking the pre-existing firmware in said target controller” (Maebayashi et al., col. 14, lines 45-50).

6. Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maebayashi et al., in view of Machado et al., and further in view of IBM Technical Disclosure Bulletin vol. 37, issue 10, pages 181-186 (hereafter referred to as the IBM Disclosure).

As per claim 4, Maebayashi et al. teaches/discloses a “source means” (Maebayashi et al., “modification data”, col. 4, lines 47-54). Maebayashi et al. does not does not expressly disclose that the source means for a SCSI peripheral has a SCSI disk drive firmware and SCSI servo firmware. However, Machado et al. discloses the use separate disk drive firmware and servo firmware (Machado et al., col. 30, lines 10-29). Thus, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to enclose the SCSI disk drive firmware and SCSI servo firmware of Machado et al. in the source means of Maebayashi et al. for a SCSI controller or peripheral. One of ordinary skill in the art would have been motivated to do this for the fact that if one were updating a SCSI targeted peripheral the disk drive and servo firmware should be of the same version;

Maebayashi et al. also teaches/discloses the “central processing means for receiving said firmware . . . and utilizing a local memory” (Maebayashi et al., “modification data . . . is transferred . . . to one of the processors . . . [and] held in a memory”, col. 7, lines 66-68 to col. 8, lines 1-5). Maebayashi et al. does not expressly disclose the use of local memory for storage of the SCSI firmware and SCSI servo firmware. However, Machado et al. also discloses the use of separate disk drive firmware and servo firmware (Machado et al., col. 30, lines 10-29). Thus, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to store the modification data of Machado et al. to be applied to a SCSI targeted peripheral in local memory of Maebayashi et al. One of ordinary skill in the art would have been motivated to do this for comparisons with the current SCSI firmware version present on the targeted SCSI peripheral;

Maebayashi et al. teaches/discloses a, “connection means from . . . memory . . . to a plurality of disk drives . . . ” (Maebayashi et al., “I/O bus”, col. 6, lines 18-26);

Maebayashi et al. also teaches/discloses the “peripheral controller” (Maebayashi et al., “adaptor”, col. 8, lines 31-36). Maebayashi et al. does not does not expressly disclose the use of two flash PROMs. However, the IBM Disclosure discloses the use of two separate Flash PROMs (IBM Technical Disclosure Bulletin vol. 37, issue 10, pages 181-186, ¶ 2). Thus, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the two Flash PROMs of the IBM Disclosure with the peripheral controller of Maebayashi et al. One of ordinary skill in the

Art Unit: 2122

art would have been motivated to do this to provide for backup of data storage methods if one failed, or the physical separation of two data packages to two memory areas;

Maebayashi et al. also teaches/discloses the “means to Write” to the “peripheral controller” (Maebayashi et al., “transferred” and “adapter”, col. 12, lines 43-45).

As per claim 6, as applied to claim 4 above, Maebayashi et al. does not expressly disclose a “means for recognizing the number of bytes of firmware to be downloaded”. It would have been clear that the “means for recognizing the number of bytes of firmware to be downloaded” by the central processing is an inherent function of the central processing and supporting computer hardware/software;

Maebayashi et al. also does not expressly disclose a means for “selecting a buffer array size . . .” It would have been clear that the “selecting [of] a buffer array size ... [for the] number of bytes to be downloaded” by the central processing is an inherent function of the central processing and supporting computer hardware/software.

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maebayashi et al., in view of Machado et al., and the IBM Disclosure, as applied to claim 4 above, and further in view of Stupek et al.

Maebayashi et al. does not expressly disclose the use of the World Wide Web as the source of the firmware update means. As a means of reference, the World Wide Web can also be described as a worldwide collection of networked computers accessible through an on-line service provider. However, Stupek et al. discloses the use of an on-line service provider for the obtaining of a replacement or upgrade firmware data (Stupek et al., col. 10, lines 49-50). Thus, at the time the invention was made, it would have been

obvious to a person of ordinary skill in the art to obtain the necessary replacement or update firmware data of Maebayashi et al. via the World Wide Web by means of the on-line service provider of Stupek et al. One of ordinary skill in the art would have been motivated to do this due to the tendency of users to lose/misplace installation or upgrade disks, the ready accessibility of the information, and the likelihood that a piece of device software will be at its newest version due to the ease of product dissemination via the World Wide Web.

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maebayashi et al., in view of Machado et al., and the IBM Disclosure, as applied to claim 4 above, and further in view of the American National Standards Institute's (ANSI) SCSI-2 standard, X3.131-1994 (hereafter referred to as the ANSI X3.131-1994 standard).

Maebayashi et al. does not expressly disclose the identification inquiry means of a target controller as set forth. However, the ANSI X3.131-1994 standard discloses the means to query a target controller (ANSI X3.131-1994 standard, clause 8, section 2.5). Thus, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the INQUIRY command of the ANSI X3.131-1994 standard in order to ascertain identification and version information about a targeted controller of Maebayashi et al. One of ordinary skill in the art would have been motivated to do this in order to ensure the upgrade data would not be applied to a non-compatible controller or a newer firmware software version;

Maebayashi et al. teaches/discloses the “version of firmware [which] will be downloaded to said target controller” (Maebayashi et al., col. 14, lines 45-50).

Art Unit: 2122

9. Claims 8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maebayashi et al. in view of Ghia et al.

As per claim 8, Maebayashi et al. teaches/discloses the “source means” for the “microcode firmware” (Maebayashi et al., “modification data supply unit” and “modification data”, col. 2, lines 19-24);

Maebayashi et al. teaches/discloses the “processor . . . for receiving and buffering . . . firmware” (Maebayashi et al., col. “modification storage unit”, col. 1, lines 60-68 and col. 2, lines 1-10). Maebayashi et al. does not expressly disclose, “having a first and second two-dimensional buffer array”. However, Ghia et al. does disclose a two-array memory formation (Ghia et al., fig. 2). Thus, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use either the two physically separated arrays, or two memory allocated buffers, of Ghia et al. with the processor of Maebayashi et al. One of ordinary skill in the art would have been motivated to do this to ensure that the survivability of firmware in the case of catastrophic failure during the update process, or in order to increase the amount of memory available to the firmware update package;

Maebayashi et al. also teaches/discloses the, “means for transferring . . . firmware onto a . . . targeted peripheral controller . . . ” (Maebayashi et al., col. 7, lines 41-56).

As per claim 11, as applied to claim 8 above, Maebayashi et al. does disclose the checking of the “target controller module” for the “proper firmware” by means of detection of an error condition (Maebayashi et al., col. 15, lines 49-55).

Art Unit: 2122

10. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maebayashi et al., in view of Ghia et al., as applied to claim 8 above, and further in view of Stupek et al.

As per claim 9, as applied to claim 8 above, Maebayashi et al. does not expressly disclose an “interface” program, whether library exported or otherwise. However, Stupek et al. discloses the use of an interface program for issuing a download request and querying a target controller (Stupek et al., col. 12, lines 29-43). Thus, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to create such an interface program of Stupek et al. for the system of Maebayashi et al. One of ordinary skill in the art would have been motivated to do this to carry out the task of instructing the central processing unit (CPU) to download a firmware update, telling the CPU to store the firmware update in temporary storage if necessary, coordinating the firmware update data move from the CPU to the targeted controller, and querying the targeted controller;

Maebayashi et al. teaches/discloses the means to access the firmware “release number” whereby the appropriate firmware could be selected (Maebayashi et al., “version”, col. 14, lines 45-50);

Maebayashi et al. also does not expressly disclose a, “means for selecting the appropriate size of . . . array . . . [to] store said . . . firmware.” It would be clear that the combination of elements set forth above would enable the processor to select the appropriate size memory array for the storage of the firmware.

As per claim 10, as applied to claim 8 above, Maebayashi et al. teaches/discloses the means to check the pre-existing and “current version” firmware against the “new” version of the firmware (Maebayashi et al., col. 14, lines 45-50).

11. Claim 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maebayashi et al., in view of Stupek et al., and further in view of the ANSI X3.131-1994 standard.

As per claim 12, Maebayashi et al. teaches/discloses the system comprising a “storage media” for “holding different versions” of firmware software (Maebayashi et al., col. 16, lines 19-23);

Maebayashi et al. does not expressly disclose a “utility program” to download a firmware update. However, Stupek et al. discloses the addition to a system of a means to download a firmware software version for a targeted controller (Stupek et al., col. 4, lines 34-38). Thus, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art in order to retrieve from a networked source and store the different versions of the firmware software package(s) of Maebayashi et al. one would require a means to download said firmware software package as is present in Stupek et al. One of ordinary skill in the art would have been motivated to do this in order to affect the retrieval of a firmware update if the operation of the means of accumulating firmware versions for a targeted controller was through a worldwide set of networked computers (the World Wide Web);

Maebayashi et al. also does not expressly disclose an “inquiring” means for a target control module. However, the ANSI X3.131-1994 standard discloses the

Art Unit: 2122

INQUIRY command (ANSI X3.131-1994 standard, clause 8, section 2.5) whereby a targeted controller could be identified and the firmware requirements disclosed. Thus, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the INQUIRY command of the ANSI X3.131-1994 standard to query the targeted SCSI controller because that is the SCSI standard of the ANSI X3.131-1994 standard when a SCSI controller is present on the system of Maebayashi et al. One of ordinary skill in the art would have been motivated to do this in order to have the targeted SCSI controller respond in a manner appropriate to the ANSI X3.131-1994 standard that specified its proper query and response patterns;

Maebayashi et al. teaches/discloses a means for “fetching . . . the appropriate firmware file. . . .” (Maebayashi et al. col. 10, lines 35-44);

Maebayashi et al. also teaches/discloses the “selecting” of and storage in of firmware software in the storage media (Maebayashi et al., col. 11, lines 52-54);

Maebayashi et al. also teaches/discloses the downloading of the modified firmware software to the targeted controller (Maebayashi et al., “transferred”, col. 12, lines 64-67).

As per claim 13, as applied to claim 12 above, Maebayashi et al. also teaches/discloses the use of version “checking” of the firmware software (Maebayashi et al., col. 14, lines 45-50).

12. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Maebayashi et al. in view of the ANSI X3.131-1994 standard.

As applied to claim 14, Maebayashi et al. does not expressly disclose the means for initiating a SCSI INQUIRY command. However, the ANSI X3.131-1994 standard discloses a means of querying a SCSI controller via an INQUIRY command in the form of modified Command Descriptor Block (ANSI X3.131-1994, clause 8, section 2.5). Thus, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the INQUIRY command of the ANSI X3.131-1994 standard for querying a SCSI controller of Maebayashi et al. One of ordinary skill in the art would have been motivated to do this for the reason that a non-standard INQUIRY command, not compliant w/ the ANSI X3.131-1994 standard, would only be usable in a proprietary SCSI controller and not with the broad number of ANSI X3.131-1994-compliant SCSI controllers and peripherals;

Maebayashi et al. also does not expressly disclose the mean to query a targeted controller with information from a Page Control Field. However, as per the ANSI X3.131-1994 standard, setting the enable vital product data (EVPD), “shall return the optional vital product data specified by the [P]age [C]ode [F]ield” (ANSI X3.131-1994 standard, clause 8, section 2.5, ¶ 2) which will specify what, “page of vital product data information the target shall return (ANSI X3.131-1994 standard, clause 8, section 2.5, ¶ 4 and clause 8, section 3.4, ¶ 1). Thus, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the ANSI X3.131-1994 standard EVPD produced by the ANSI X3.131-1994 standard INQUIRY command with a specific Page Code Field set to obtain the information necessary to “query a designated target control module” of Maebayashi et al. One of ordinary skill in the art would have

been motivated to do this in order ascertain the proper firmware version to be placed on the targeted SCSI module;

Maebayashi et al. also does not expressly disclose the means of enabling access to the firmware page number of a given target controller. It would have been clear that the elements of the EVPD data structure would enable access to and acquiring a firmware page number and a firmware version number for said target control module;

Maebayashi et al. teaches/discloses the “downloading” of the firmware data via a modification data storage (Maebayashi et al., “transfer”, col. 12, lines 55-59);

Maebayashi et al. also teaches/discloses the “passing” of firmware data to a target control module (Maebayashi et al., “transferred”, col. 12, lines 64-67);

As per claim 15, as applied to claim 14 above, Maebayashi et al. teaches/discloses the means to “sense” when a SCSI INQUIRY command fails and sets the sense key to ILLEGAL REQUEST (Maebayashi et al., “detects”, col. 18, lines 48-51).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David A Snyder whose telephone number is (703) 305-7205. The examiner can normally be reached on Monday - Friday from 9am - 5pm Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Greg A Morse can be reached on (703) 308-4789. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Art Unit: 2122

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

dAs

August 9, 2002



**TUAN Q. DAM
PRIMARY EXAMINER**